

and adjust the position of the lampwick to make each light-emitting diode chip be at the focal point of its corresponding paraboloidal reflector.

In an alternative further step, said light-emitting diode lamp could be encapsulated by resin 201 so as to make it dustproof and damp-proof.

The efficiency of the light-emitting diode lamp made according to the above steps could be more than 80% when a divergence angle of smaller than 3° is required.

What is claimed is:

1. A light-emitting diode lamp consisting of a lampwick (203, 204, 205) including light-emitting diode chip(s) (203) and a reflector (202), characterized in that the light-emitting surface (206) of the light-emitting diode chips (203) on said lampwick faces to the curved reflection surface (207) of said reflector (202), and is located at the focal point of said curved reflection surface and forms an angle ( $\alpha$ ) of 0-90° with respect to the axis (I) of the reflector (202).
2. The light-emitting diode lamp according to claim 1, characterized in that said curved reflection surface (207) is a paraboloid.
3. The light-emitting diode lamp according to claim 1 or 2, characterized in that said light-emitting surface (206) forms an angle ( $\alpha$ ) of 0-30° with respect to the axis (I) of the reflector.

4. The light-emitting diode lamp according to claim 2 or 3, characterized in that said reflector (202) is formed of a plurality of paraboloidal reflective mirrors, the axes of said paraboloidal reflective mirrors are parallel to the axis (I) of the reflector (202) and are distributed evenly at equal distance centered at the axis (I) of the reflector.
5. The light-emitting diode lamp according to claim 4, characterized in that the number of said light-emitting diode chip(s) or chip group(s) and said reflective mirror is four.
6. The light-emitting diode lamp according to any one of the preceding claims, characterized in that said lampwick (203, 204, 205) is formed of a lampwick base (204, 205) of the shape of regular prism and one or more light-emitting diode chip(s) or chip group(s), and each light-emitting diode chip or chip group is located at one side of said lampwick base, and the lampwick base is formed of a first conductive layer (205) and a second conductive layer (204) which are insulated to each other.
7. The light-emitting diode lamp according to any one of the preceding claims, characterized in that it is encapsulated with resin to be dustproof and dampproof.
8. A method of manufacturing the light-emitting diode lamp as stated in claim 1, comprising the steps of:
  - (1) manufacturing the reflector (202) having a curved reflection surface (207);
  - (2) manufacturing the lampwick (203, 204, 205) having the light-emitting diode chips (203) or chip groups, and making the light-emitting surface (206) of said light-emitting diode chips (203) or chip groups to form an angle ( $\alpha$ ) of 0-90° with respect to the axis (I) of said reflector (202);
  - (3) putting said lampwick into said reflector (202) and adjusting said

lampwick to make said light-emitting diode chip(s) or chip group(s) be at the focal point of said curved reflection surface.

9. The method according to claim 8, characterized by comprising a further step of encapsulating said lamp with resin.

10. The method according to claim 8 or 9, characterized in that said curved reflection surface (207) is a paraboloid.

11. The method according to any one of claims 8-10, characterized in that the angle ( $\alpha$ ) between said light-emitting surface (206) and the axis (I) of said reflector is 0-30°.

12. The method according to any one of claims 10-11, characterized in that said reflector (202) is formed of a plurality of paraboloidal reflective mirrors, the axes of said paraboloidal reflective mirrors are parallel to the axis (I) of said reflector (202), and are distributed evenly at equal distance centered at the axis (I) of the reflector.

13. The method according to claim 12, characterized in that the number of said light-emitting diode chip(s) or chip group(s) and said reflective mirrors is four.